

WHAT IS CLAIMED:

1        1. A method for use in apparatus of a communications system, the method  
2 comprising the steps of:

3            decoding block encoded data for removing the block encoding from the data;  
4            mapping the data into a variable length protocol data unit (PDU) for transmission  
5 over a synchronous transport medium.

1        2. The method of claim 1 wherein the PDU comprises a header portion and a  
2 payload portion and includes a type field representing whether the data represents a data  
3 frame or a control frame.

1        3. The method of claim 1 wherein the transport medium is bit/byte synchronous.

1        4. The method of claim 1 wherein the transport medium is a synchronous optical  
2 network (SONET).

1        5. The method of claim 1 wherein the mapping step maps the data into a  
2 simplified data link (SDL) PDU.

1        6. The method of claim 1 wherein the decoding step further comprises the steps  
2 of:

3            receiving a fibre channel (FC) signal representing the block encoded data; and  
4            decoding the FC signal for removing the block encoding from the data.

1        7. The method of claim 1 wherein the decoding step further comprises the steps  
2 of:

3            receiving an enterprise systems connection (ESCON) signal representing the  
4 block encoded data; and  
5            decoding the ESCON signal for removing the block encoding from the data.

1        8. A method for use in communications apparatus, the method comprising the  
2 steps of:

- 3 (a) receiving a signal representing block encoded data;
- 4 (b) decoding the receiving signal for removing the block encoding from the data;
- 5 (c) determining whether the data represents, at least, a control frame type or a data
- 6 frame type;

7 (d) comparing the determined type to a type of previous data, which represents at  
8 least one previously decoded block of data;

9 (e) if the determined type is different from the type of previous data, formulating  
10 the previous data into a variable length payload data unit (PDU) for transmission over a  
11 synchronous transport medium; and

12 (f) if the determined type is not different from the type of previous data, storing  
13 the data in a buffer.

- 1        9. The method of claim 8 wherein step (f) includes the steps of:
  - 2            determining if the buffer is full; and
  - 3            if the buffer is full, formulating the buffered data into a variable length PDU for
  - 4            transmission over the synchronous transport medium.

1           10. A method for use in apparatus of a communications system, the method  
2   comprising the steps of:

3 receiving a signal from a synchronous transport medium, wherein the signal  
4 represents information conveyed in a variable length protocol data unit (PDU);

5 decoding the PDU by examining a type field of the PDU, wherein the type field  
6 indicates whether data in a payload portion of the PDU represents either a data frame or a  
7 control frame; and

8 block encoding the data for transmission.

1               11. The method of claim 10 wherein the transport medium is bit/byte  
2 synchronous.

1           12. The method of claim 10 wherein the transport medium is a synchronous  
2       optical network (SONET).

1           13. The method of claim 10 wherein the block encoding step further comprises the  
2 step of forming a fibre channel (FC) signal representing the block encoded data.

1           14. The method of claim 10 wherein the block encoding step further comprises the  
2 step of forming an enterprise systems connection (ESCON) signal representing the block  
3 encoded data.

1           15. Apparatus for use in a communications system, the apparatus comprising:  
2           a decoder operative on block-encoded data for removing the block encoding from  
3           the data; and  
4           a mapper for mapping the data into a variable length protocol data unit (PDU) for  
5           transmission over a synchronous transport medium.

1           16. The apparatus of claim 15 wherein the PDU comprises a header portion and a  
2 payload portion and includes a type field representing whether the data represents a data  
3 frame or a control frame.

1           17. The apparatus of claim 15 wherein the transport medium is bit/byte  
2 synchronous.

1           18. The apparatus of claim 15 wherein the transport medium is a synchronous  
2 optical network (SONET).

1           19. The apparatus of claim 15 wherein the mapper maps the data into a simplified  
2 data link (SDL) PDU.

1           20. The apparatus of claim 15 wherein the decoder is operative on a fibre channel  
2 (FC) signal representing the block encoded data, and decodes the FC signal for removing  
3 the block encoding from the data.

1           21. Apparatus for use in a communications system, the apparatus comprising:  
2           a decoder operative on a received a signal from a synchronous transport medium,  
3 wherein the signal represents information conveyed in a variable length protocol data unit

4 (PDU), the decoder decoding the PDU by examining a type field of the PDU, wherein the  
5 type field indicates whether data in a payload portion of the PDU represents either a data  
6 frame or a control frame; and  
7 an encoder for block encoding the data for transmission.

1 22. The apparatus of claim 21 wherein the transport medium is bit/byte  
2 synchronous.

1 23. The apparatus of claim 21 wherein the transport medium is a synchronous  
2 optical network (SONET).

1 24. The apparatus of claim 21 wherein the encoder forms a fibre channel (FC)  
2 signal representing the block encoded data.

1 25. A transmission frame representing data embodied in signal conveyed over a  
2 synchronous transport medium, the transmission frame comprising:

3 a variable length packet, the variable length packet comprising:  
4 a header, which includes at least a length field indicative of a length of the  
5 variable length packet;  
6 a type field representing a type of data conveyed in a payload portion of  
7 the packet, wherein the type is, at least, either a data frame or a control frame; and  
8 the payload portion for conveying the data.

1 26. The apparatus of claim 25 wherein the header includes an error correction  
2 field.

1 27. A transmission frame representing data embodied in signal conveyed over a  
2 synchronous transport medium, the transmission frame comprising:

3 a variable length packet, the variable length packet comprising:  
4 a header, which includes at least a length field indicative of a length of the  
5 variable length packet;  
6 a type field representing a type of data conveyed in a payload portion of  
7 the packet, wherein the type is, at least, either a fibre channel (FC) data frame or

8           an FC control frame; and  
9            the payload portion for conveying the data.

1           28. A transmission frame representing data embodied in signal conveyed over a  
2           synchronous transport medium, the transmission frame comprising:

3           a variable length packet, the variable length packet comprising:  
4            a header, which includes at least a length field indicative of a length of the  
5           variable length packet;  
6            a type field representing a type of data conveyed in a payload portion of  
7           the packet, wherein the type is, at least, either an enterprise systems connection  
8           (ESCON) data frame or an ESCON control frame; and  
9            the payload portion for conveying the data

PENDING EXAMINER'S AMENDMENT  
NOT TO BE QUOTED OR CITED AS PRECEDENT